

REMARKS

The Specification has been amended. Claims 1-27 have been cancelled. Claims 29, 39, 48, and 49 have been amended. No new matter has been added. Thus, claims 28 - 52 are pending in the present application. In view of the above amendments and the following remarks, it is respectfully submitted that all of the presently pending claims are allowable.

The Specification stands objected due to an informality. (*See* 1/29/10 Office Action, p. 2). Specifically, the Examiner states that the phrase “thread lead G” is unclear. The Specification has been amended to recite “a thread lead”. Thus, it is respectfully submitted that the objection to the Specification should be withdrawn.

Claims 29, 39, 48, and 49 stand objected due to informalities. (*See* 1/29/10 Office Action, p. 2).

Regarding claim 29, the Examiner states that the phrase “the axial connection element preventing relative securing the anchoring element to the shaft” is unclear. The Examiner has stated that the above phrase is being interpreted to mean “the axial connection element permitting motion between the anchoring element and the shaft.” Claim 29 has been amended to recite “the axial connection element preventing a relative securing of the anchoring element to the shaft.” Thus, it is respectfully submitted that claim 29 is clear and the literal meaning of the claim should be used for interpretation purposes.

Regarding claim 39, the Examiner states that claim 39 depends upon a cancelled claim. Claim 39 has been amended to depend from claim 28. Thus, it is respectfully submitted that claim 39 has a proper basis.

Regarding claims 48 and 49, the Examiner states that “pitch of G” and “the pitch G” are unclear. Claims 48 and 49 have been amended to remove “G” and thus, it is respectfully submitted that these claims are clear.

Claims 28 - 36, 39 - 41, 44 - 47, and 52 stand rejected under 35 U.S.C. §102(b) as anticipated by U.S. Patent No. 5,772,662 to Chapman et al. (hereinafter “Chapman”). (*See* 1/29/10 Office Action, p. 3).

Claim 28 recites a bone fixation implant comprising “a longitudinal shaft having a first end, a second end, and a central longitudinal axis,” “an anchoring element at the first end of the shaft, the anchoring element configured and dimensioned for engaging bone,” and “a rotational coupling element provided at an interface between the anchoring element and the shaft, the coupling element configured and dimensioned to permit free rotation of the anchoring element relative to the shaft about the central longitudinal axis when in a first position and rotationally lock the anchoring element to the shaft when in a second position.”

Initially, the Examiner states that the smoothly rounded circumferentially-closed dome 7 of Chapman anticipates the anchoring element of claim 28. It is respectfully submitted that the dome 7 of Chapman is not configured and dimensioned for engaging bone. As disclosed in Chapman, the dome 7 merely provides a bore 15 for releasably securing an elongated insertion rod to the dome. That is, the dome 7 provides no anchoring functionality and its “smoothly rounded” feature would not lead one skilled in the art to understand that the dome 7 is “configured and dimensioned” to engage bone. Instead, according to the teachings of Chapman, it would appear that the cylindrical expansion sleeve 3 that the Examiner states anticipates the rotational coupling element performs an anchoring function. Specifically, Chapman states that “when the plunger is fully advanced within the sleeve, the cylindrical wall of the sleeve 3 has taken on a generally barrel-shaped contour” that locks the implant in the bone, as the expanding cylindrical wall grips the inner walls of a cavity in the patient’s bone. (*See* Chapman, col. 12, ll.

39-50). If it is deemed that the expansion sleeve 3 of Chapman anticipates the anchoring element of claim 28, Chapman would no longer have a component that anticipates the rotational coupling element of claim 28.

Furthermore, the Examiner states that the cylindrical sleeve 3 of Chapman anticipates the rotational coupling element of claim 28. However, the cylindrical sleeve 3 of Chapman merely provides the means for fixing the implant 1 of Chapman within a bone. That is, in its entirety, Chapman includes no disclosure or suggestion that the dome 7 and the cylindrical stem portion 19 have a rotational relationship therebetween. In contrast, one skilled in the art may understand that the cylindrical stem portion 19 remains rotationally free whether or not the cylindrical sleeve 3 is in a locked position. Specifically, because the cylindrical sleeve 3 is configured to expand radially from a central longitudinal axis, the insertion of the body portion 17 into the ring 9 of the cylindrical portion 3 would eventually only prevent a lateral movement further into the ring 9 (when in a locked position) but would not prevent any rotational movement that the body portion 17 is capable.

It is therefore respectfully submitted that Chapman fails to teach or suggest the above recitation of claim 28 and that claim 28 is therefore in condition for allowance. Because claims 29 - 36, 39 - 41, and 44 - 47 depend from and therefore include all of the limitations of claim 28, it is respectfully submitted that these claims are also allowable.

Claim 52 recites limitations substantially similar to claim 1, including a method for repairing a bone fracture comprising "inserting a bone fixation implant into a fractured bone, the bone fixation implant including" "a shaft having a first end, a second end, and a central longitudinal axis," "an anchoring element at the first end of the shaft, the anchoring element configured and dimensioned for engaging the bone," "a rotational coupling element configured to permit free rotation of the anchoring element with respect to the shaft about the central longitudinal axis when in a first position and rotationally lock the anchoring element to the shaft

when in a second position,” “inserting a bone plate having a sleeve keyed to mate with the shaft of the bone fixation implant over the shaft of the bone fixation implant,” aligning the bone plate with the fractured bone,” and “moving the rotational coupling element into the second position to rotationally lock the anchoring element to the shaft.” It is therefore respectfully submitted that claim 52 is allowable over Chapman for at least the same reasons noted above with respect to claim 28.

Claims 37, 38, 48, and 49 stand rejected under 35 U.S.C. §103(a) as unpatentable over Chapman in view of U.S. Patent No. 5,827,285 to Bramlet. (*See* 1/29/10 Office Action, p. 9). Chapman was discussed above. Claim 28 was recited above.

As discussed above, Chapman does not disclose or suggest the above recitation of claim 28. It is respectfully submitted that Bramlet also does not disclose or suggest this recitation of claim 28. Thus, it is respectfully submitted that neither Chapman nor Bramlet, either alone or in combination, discloses or suggests the above recitation of claim 28. Because claims 37, 38, 48, and 49 depend from and include all the limitations of claim 28, it is respectfully submitted that these claims are also allowable.

Claims 42 and 43 stand rejected under 35 U.S.C. §103(a) as unpatentable over Chapman in view of U.S. Patent No. 6,221,107 to Steiner et al. (hereinafter “Steiner”). (*See* 1/29/10 Office Action, p. 11). Chapman was discussed above. Claim 28 was recited above.

As discussed above, Chapman does not disclose or suggest the above recitation of claim 28. It is respectfully submitted that Steiner also does not disclose or suggest this recitation of claim 28. Thus, it is respectfully submitted that neither Chapman nor Steiner, either alone or in combination, discloses or suggests the above recitation of claim 28. Because claims 42 and 43 depend from and include all the limitations of claim 28, it is respectfully submitted that these claims are also allowable.

Claims 50 and 51 stand rejected under 35 U.S.C. §103(a) as unpatentable over Chapman in view of U.S. Patent No. 3,374,786 to Callender. (See 1/29/10 Office Action, p. 12). Chapman was discussed above. Claim 28 was recited above.

As discussed above, Chapman does not disclose or suggest the above recitation of claim 28. It is respectfully submitted that Callender also does not disclose or suggest this recitation of claim 28. Thus, it is respectfully submitted that neither Chapman nor Callender, either alone or in combination, discloses or suggests the above recitation of claim 28. Because claim 50 depends from and includes all the limitations of claim 28, it is respectfully submitted that this claim is also allowable.

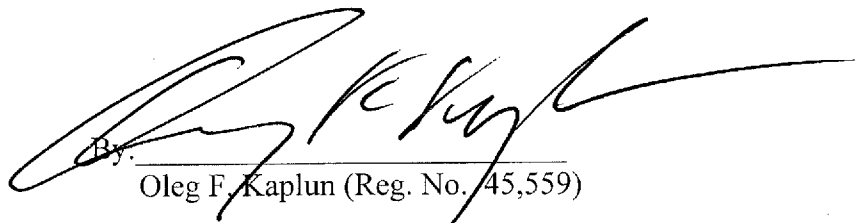
Claim 51 recites a bone fixation system comprising “a bone plate configured and dimensioned for attachment to a femur, the bone plate including an angular sleeve with a non-circular cross-section adapted to receive a bone fixation implant,” “a bone fixation implant configured and dimensioned for use with the bone plate, the bone fixation implant including” “a shaft having a first end, a second end, and a central longitudinal axis,” “an anchoring element at the first end of the shaft, the anchoring element having a plurality of helically-twisted blades for engaging bone,” “an axial connection element disposed at an interface between the anchoring element and the shaft, the axial connection element preventing axial movement of the anchoring element relative to the shaft along the central longitudinal axis,” and “a rotational coupling element disposed at an interface between the anchoring element and the shaft, the coupling element configured and dimensioned to permit free rotation of the anchoring element with respect to the shaft about the central longitudinal axis when in a first position and rotationally lock the anchoring element to the shaft when in a second position.” Thus, it is respectfully submitted that claim 51 is also allowable for at least the reasons discussed above with reference to claim 28 and that claim 51 is therefore in condition for allowance

CONCLUSION

In light of the foregoing, Applicants respectfully submit that all of the presently pending claims are in condition for allowance. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited.

Respectfully submitted,

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